

Appl. No. 09/994,195

Amdt. dated February 27, 2004

Reply to Office action of December 15, 2003

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-13 and 16-19 remain in the application. Claim 8 has been amended in an effort to even more specifically assure the understanding that the various access codes that are parallel-processed are received simultaneously. In the case of Claim 8, we did not introduce the word "substantially" in order to not render the claim too complicated. It is understood that the word "simultaneously" is to be interpreted with extremely slight variations so as to allow slight environmentally produced delays in the response. For instance, a response signal may be reflected at a wall or an adjacent motor vehicle before it arrives at the receiver. Similarly, the various access code transmitters are typically distributed so as to be offset in terms of their distance to the transceiver unit. The limitation "simultaneously," however, clearly distinguishes the invention over the prior art references and the prior art as a whole.

In the middle of page 2 of the detailed office action, the Examiner once more objected to the specification under 35 U.S.C. 132. The specific frequencies of 315 and 915 MHz were already eliminated when claims 14 and 15 were cancelled. Accordingly, the objection to the specification appears to be

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moot. The Examiner is requested to confirm applicants understanding.

The specific frequencies of 315 and 915 MHz were introduced in order to correct an oversight on applicants' part. The frequencies mentioned in claims 14 and 15 refer to frequencies that are used in European systems. In the United States, the corresponding frequencies are 315 MHz (corresponding to the European frequency of 433 MHz) and 915 MHz (as opposed to the 868 MHz frequency that is typical for Europe).

We now turn to the art rejections. The Examiner has once more rejected several of the claims as being anticipated by Wood, Jr. (U.S. Patent No. 6,104,333) under 35 U.S.C. 102(e). We respectfully traverse.

The rejection of claim 1 appears to be based on a misunderstanding and an incorrect interpretation, on the Examiners part, of the reference Wood, Jr. (hereinafter "Wood"). We do not disagree with the Examiner's statement that Wood discloses that several transponders that can respond simultaneously. While this is correct, the system of Wood, upon recognizing that more than one transponder has answered immediately recognizes that a collision is present and that

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the interrogator 26 is required to interrogate the transponders anew.

With specific reference to the disclosure in Wood, details of the arbitration that is triggered upon recognizing a collision is found in columns 15 and 16 and the corresponding information with regard to the time delay that is introduced in the replies upon the detection of a collision is found in columns 17 and 18. More specifically, Wood provides the following disclosure:

Details of Arbitration

The arbitration of more than one tag per interrogator 26 is accomplished by using an Arbitration Value and an Arbitration Mask during an Identify command If there are multiple devices 12 responding, the interrogator 26 will detect a collision and will start the arbitration sequence. . . . To start the arbitration sequence among multiple tags, the interrogator 26 instructs the tags to clear their IDENTIFY_LOCKOUT bit and (possibly) re-randomize their RandomValueLd values If any collisions are detected at the this mask level, the mask would be widened again by one bit, and so on through the eight bit wide mask (256 numbers).

Wood, cols. 15-16.

The above-noted arbitration is made possible by masking the various responses with a time delay so that the individual transponders are time-delayed relative to one another so that they will not arrive simultaneously at the interrogator. Wood explains with specificity.

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Time Delay Reply

Such is the case when, for example, more than one device attempts to reply to one or more interrogator(s) Responsive to receiving the RF communication data from interrogator 26, the communication devices preferably perform an operation directed to determining which devices need to reply to the interrogator individual devices 12 include a delay circuitry which calculates their own individual delays. Preferably, such calculated delays are used to define amounts of time which are different as between those responding to transmitting devices 12.

Wood, cols. 17-18.

In simplistic terms, when a collision is found to be existent in the Wood system, then the interrogator 26 is driven with an arbitration sequence which then provides for the transponders to be queried in sequence. It is thus entirely clear from the disclosure of Wood that when several transponders answer simultaneously, the responses cannot be evaluated. As a result, or as a solution, the transponders are then queried in series.

If we now compare the disclosure of Wood, as properly interpreted, with the claimed invention, we find that the claimed invention cannot be anticipated by the references. The method as claimed provides for at least two limitations that are clearly not found in the references, yet that are critical with regard to the invention. First, the third paragraph of the body of the claim defines that the access

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code transmitters that have received the interrogation signal transmit an access code signal substantially simultaneously.

Here the term "substantially" refers to the fact that the individual access code transmitters may be slightly out of phase relative to one another and that they are also spaced at different distances from the interrogation transceiver. The different distances cause the access code transmitter to receive the interrogation signal with a slight offset in time and accordingly they will respond not absolutely simultaneously but with a slight offset. The transmission of the access code signals from the various access code transmitters is nevertheless simultaneous in that they overlap to an extremely high degree.

Second, the receiver receives the access code signals substantially simultaneously. These access code signals may arrive with very slight temporal deviations because of the different spacing distance of the access code transmitters from the receiver and also because of certain environmental influences such as environmental reflectors or other structures that may prevent a direct signal path to the receiver. In either way, the access code signals are received simultaneously in a sense that they are overlapped relative to one another to a very high degree - in a macroscopic sense, they do arrive entirely simultaneously. Then the access code

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signals are separated, according to claim 1 on a basis of the specific spread sequences applied to the signals.

This is different in the prior art: When response signals from more than one access code transmitters are received simultaneously, Wood recognizes a collision and starts a revised interrogation so that the response signals, i.e. the access code signals, can be received and processed in sequence as opposed to in parallel.

We have also noted the Examiner's statement concerning the spread spectrum processing. It should be noted, however, that the interrogation in the reference Wood is done in the spread spectrum process, while in the claimed invention the interrogation is not spread. It is a simple interrogation signal and the transponders which receive the signal respond with their respective access code signal or response signal simultaneously. The result, according to the invention is that when several transponders are within the reach of the interrogator, several response signals can be simultaneously sent and therefore overlap each other. The specific receiver then extracts the respective access code from the response signal.

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Once more with regard to the reference, Wood's system recognizes a collision when several transponders respond. If a collision is recognized, the transponders are then interrogated in sequence. This, of course, is entirely unnecessary with the claimed method according to claim 1.

Similarly, the remote access control configuration defined in claim 8 provides for the simultaneous interrogation and simultaneous response. Most importantly with regard to the reference, we recite in claim 8 that the transceiver unit has a device for parallel processing of a plurality of simultaneously received access code signals. This, of course, is not found in Wood nor does Wood provide any suggestion towards this modification. In fact, Wood teaches just the opposite and, if anything, would teach away from the invention recited in claim 8.

Of the various combinations of references proffered by the Examiner and alleged to render obvious the claimed invention under 35 U.S.C. 103 each includes the reference Wood as the primary teaching. The secondary references do not make up for the above-outlined shortcomings of the primary reference Wood and, accordingly they cannot be said to properly modify Wood towards the claimed invention. Specifically, Wood cannot be properly modified because the teaching found therein does

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indeed point to a system in which parallel processing and parallel receiving of several signals lead to an entirely different operation than the parallel processing provided for by the invention.

In summary, neither Wood nor any of the other references of record, whether taken alone or in any combination, either show or suggest the features of claim 1 and 8. These claims are therefore, believed to be patentable over the art of record and so are the dependent claims as they incorporate all of the features of the allowable claim 1 and 8 respectively.

In view of the foregoing, reconsideration and allowance of claims 1-13 and 16-19 are solicited.

Please charge any fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

In the event the Examiner should still find any of the claims to be unpatentable, he is respectfully requested to telephone counsel so that, if possible, patentable language can be worked out. In the alternative, the entry of the amendment is requested as it is believed to place the application in better

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condition for appeal, without requiring extension of the field
of search.

Respectfully submitted,



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February 27, 2004

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